

L Number	Hits	Search Text	DB	Time stamp
1	9	(morinda adj citrifolia same fruit) or m.citrifolia same fruit) or noni near4 fruit	USPAT; EPO; JPO; DEFWENT	2002/06/06 10:34
2	10	(morinda adj citrifolia same fruit) or m.citrifolia same fruit) or noni near4 fruit	USPAT; EPO; JPO; DEFWENT	2002/06/06 10:32
3	1	(morinda adj citrifolia same fruit) or m.citrifolia same fruit) or noni near4 fruit) same (anti-tumor\$3 or anti-cancer\$3 or antitumor or anticancer\$4 or cancer\$4 or tumor\$4 or antioxidant or anti-oxidant)	USPAT; EPO; JPO; DEFWENT	2002/06/06 10:34
4	38	(morinda adj citrifolia) or m.citrifolia or noni near4 fruit	USPAT; EPO; JPO; DEFWENT	2002/06/06 10:34
5	38	(morinda adj citrifolia) or m.citrifolia or noni near4 fruit	USPAT; EPO; JPO; DEFWENT	2002/06/06 10:35
6	4	(morinda adj citrifolia) or m.citrifolia or noni near4 fruit) same (anti-tumor\$3 or anti-cancer\$3 or antitumor or anticancer\$4 or cancer\$4 or tumor\$4 or antioxidant or anti-oxidant)	USPAT; EPO; JPO; DEFWENT	2002/06/06 10:35
7	38	(morinda adj citrifolia) or m.citrifolia or noni near4 fruit or juice\$2)	USPAT; EPO; JPO; DEFWENT	2002/06/06 10:35
8	7	(morinda adj citrifolia) or m.citrifolia or noni near4 fruit) and(anti-tumor\$3 or anti-cancer\$3 or antitumor or anticancer\$4 or cancer\$4 or tumor\$4 or antioxidant or anti-oxidant)	USPAT; EPO; JPO; DEFWENT	2002/06/06 10:36

CLIPPEDIMAGE= JP406087736A  
PAT-NO: JP406087736A  
DOCUMENT-IDENTIFIER: JP 06087736 A  
TITLE: ANTICANCER AGENT

PUBN-DATE: March 29, 1994

INVENTOR-INFORMATION:

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IMOTO, MASAYA

OBA, SHIGERU

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N/A

APPL-NO: JP04264311

APPL-DATE: September 7, 1992

INT-CL\_(IPC): A61K031/12; A61K035/78

ABSTRACT:

PURPOSE: To obtain an anticancer agent containing 1-methoxy-2-formyl-3-hydroxyanthraquinone obtained from extract of *Morinda citrifolia* which is a tropical plant as an active ingredient.

CONSTITUTION: *Morinda citrifolia* naturally grown or partially cultured in Southeast Asia is extracted with a solvent such as chloroform at ambient temperature to 60°C to afford 1-methoxy-2-formyl-3-hydroxyanthraquinone of

the formula. Using this compound as an active ingredient, the objective anticancer agent is provided. This active ingredient exhibits action capable of inhibiting action of ras cancer gene product. Namely, this active ingredient exhibits activity capable of inhibiting proliferation of cancer cell and normalizing the form of the cell.

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From: Patten, Patricia  
Sent: Thursday, June 06, 2002 10:38 AM  
To: STIC-ILL  
Subject: references for 09/997,588

TI \*\*\*Cancer\*\*\* preventive effect of Morinda citrifolia (Noni).  
AU Wang M.Y.; Su C.  
CS Dr. M.Y. Wang, Department of Pathology, UIC College of Medicine at  
Rockford, 1601 Parkview Avenue, Rockford, IL 61107, United States.  
mianwang@uic.edu  
SO Annals of the New York Academy of Sciences, (2001) 952/- (161-168).  
Refs: 18  
ISSN: 0077-8923 CODEN: ANYAA  
CY United States  
DT Journal;  
I need the following references please:

TI Morinda citrifolia and \*\*\*cancer\*\*\* prevention.  
AU Wang M Y; Su S; Nowicki A D; Jensen J; Anderson G  
CS Univ. Illinois  
LO Ill.; Utah, USA  
SO J.Nutr. (131, No. 11, Suppl., 3151S-3152S, 2001)  
CODEN: JONUAI ISSN: 0022-3166  
AV Department of Pathology, UIC College of Medicine, IL, U.S.A.  
LA English  
DT Journal

AN 2002:113281 FEDRIP \* - Database  
NR AGRIC 0183576  
TI STRUCTURE ELUCIDATION AND APPLICATION OF NATURAL \*\*\*ANTIOXIDANTS\*\*\*  
SF Principal Investigator: (product improvement)  
Ho, C.  
CSP RUTGERS UNIVERSITY, FOOD SCIENCE, NEW BRUNSWICK, NEW JERSEY, 08903  
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FS Depart

Not a  
article

Thank you!

Patricia Patten  
Patent Examiner  
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-Biotechnology Center 1600-  
Art Unit 1651  
308-1189

\* Fedrip - Federal research in progress  
Covers ongoing federally funded research projects.

1/9/71

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00, 75164

IDENTIFYING NO.: 0187576 AGENCY CODE: AGRI1

STRUCTURE ELUCIDATION AND APPLICATION OF NATURAL

Product Imp. Content

ASSOCIATE INVESTIGATORS: Hs, C.

PERFORMING ORG.: RUTGERS UNIVERSITY, FOOD SCIENCE, NEW BRUNSWICK, NEW JERSEY 08903

TYPE OF AWARD: BATTLE 13 B

SUMMARY: To examine the antioxidant activity of number of plant materials, and their extracts and fractions in several model and food system. To understand the mechanisms by which antioxidants exert their effects. To search for novel sources of natural antioxidants and test their efficacy in different food systems. Crude extracts or source material will be examined for their antioxidant activity in vegetable and oil-in-water emulsion system. Crude extracts will be fractionated into "hydrophobic" and "hydrophilic" components. These will be tested in different systems in order to examine the interfacial phenomena. The most active components from the extracts will be isolated and these will

be chemically characterized. FR regions bordering the Indian Ocean such as Malindi and Zanzibar as well as Hawaii. The bark, stem, roots, leaves, and fruits have been used traditionally as a folk remedy for many diseases including diabetes, hypertension, and cancer. We have done a complete analysis of the components in some fruits, leaves and roots. Several new and known iridoids and several known flavonol glycosides was isolated from the leaves of *Morinda citrifolia*. Their antioxidative activities were measured. All of these compounds showed DPPH free radical scavenging activity at the concentration of 30 microM. Garcinol, a polyisoprenylated benzophenone, purified from *Garcinia*

*indica* fruit rind, displays antioxidant properties and is thought to act as an antioxidant in biological systems. However, the mechanisms of its antioxidant reactions remain unknown. We have characterized the reaction products of garcinol with a stable radical, 2,2-diphenyl-1-picrylhydrazyl (DPPH). Structural elucidation of these products can provide insights into specific mechanisms of antioxidant reactions. Two major reaction products, GDPH-1 and GDPH-2, were isolated and identified for the first time. Their structures were determined on the basis of detailed high-field 1D and 2D spectral analysis. The identification of these products provides the first

unambiguous proof that the principal sites of antioxidant reactions are on the phenolic ring and the 1,3-diketone part of garcinol. The induction of apoptosis in human leukemia HL-60 cells, the inhibition of NO generation, the effects on the activity of MMP, and the inhibitory effects on H<sub>2</sub>O<sub>2</sub> production of TPA-stimulate HL-60 cells by garcinol and its two oxidant products were investigated. PE Dong, Z.; Ghai, G.; Rosen, R. T.; Ho, C.-T. Citrifolinin A, a New Unusual Iridoid with Inhibition of Activator Protein-1 (AP-1) from the Leaves of Noni (*Morinda citrifolia* L.). *Tetrahedron Letters* 2001, 42, 1813-1815. PE of Apoptosis by Garcinol and Curcumin through Cytochrome c Release and

Activation of Caspases in Human Leukemia HL-60 Cells. *Journal of Agricultural and Food Chemistry* 2001, 49, 1464-1474. PE G.; Rosen, R.T.; Ho, C.-T. Bioactive Constituents from Gum Guggul (*Commiphora wightii*). *Phytochemistry* 2001, 56, 713-727. PE Identification of Reaction Products of (-)-Epigallocatechin, (-)-Epigallocatechin Gallate and Pyrogallol with 2,2-Diphenyl-1-picrylhydrazyl Radical. *Food Chemistry* 2001, 73, 345-349. PE B.; Ghai, G.; Rosen, R.T.; Ho, C.-T. A New Unusual Iridoid with Inhibition of Activator Protein-1 (AP-1) from the Leaves of Morinda citrifolia L. *Organic Letters* 2001, 3, 1307-1309. PE Yang, C.S. Formation and Identification of 4'-O-Methyl-(-)-epigallocatechin in

Humans. *Drug Metabolism and Disposition* 2001, 29, 789-793. PE R.T.; Ho, C.-T. Ecdysteroids of Quinoa Seeds (*Chenopodium quinoa* Willd). *Journal of*

Agricultural and Food Chemistry 2001, 49, 2576-2578.PB V.; Ghai, G.; Rosen, R.T.; Ho, C.-T. Iridoid Glycosides from the Leaves of *Morinda citrifolia*. Journal of Natural Products 2001, 64, 799-800.PB C.-T. Antioxidative Flavonoid Glycosides from Quinoa Seeds (*Chenopodium quinoa* Willd). Journal of Food Lipids 2001, 8, 37-44.PB Glycosides from the Fruits of *Morinda citrifolia* (Noni) Inhibit AP-1 Transactivation and Cell Transformation i

DESCRIPTORS: food chemistry; antioxidants; natural substances; food products; structural analysis; biological activity; plant extracts; biochemical mechanisms; performance testing; vegetables; emulsions; hydrophobic interactions; fractionation; chemical analysis; toxicology; food quality; radicals; product improvement

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